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UDC 541.128

VOL'KENSHTEIN, F. F., PEKA, G. P., MALAKHOV, V. V., Institute of Physical Chemistry, USSR Academy of Sciences, Moscow

"Effect of Adsorption on Luminescence of Semiconductors. I. Recombination

Moscow, Russian, Kinetika i kataliz, vol 14, No 4, Jun-Aug 73, pp 1052-1057

Abstract: Chemisorbed particles may affect the recombination luminescence of semiconductors by causing a change on the surface or they may act as surface centers of recombination. These effects were studied with CdS monocrystals, the adsorbates being water vapor, air, oxygen, and ozone. Changes in the luminescence intensity due to an external electric field and to adsorption and changes in conductivity due to adsorption were measured. All the adsorbates studied caused a decrease in the photoconductivity of the CdS crystals and quenching of the luminescence. No new spectral bands were recorded. With the same photoconductivity change, luminescence quenching due to adsorption was either the same as or greater than that due to the transverse electric field. The adsorption effect was greater in the red (0.76-0.78 µm) than in the infrared (1.03 µm).

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Luminescence

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UDC 541.127:541.14+541.515

VOL'KENSHTEYN, F. F., MARKIN, Yu. A., SIVOV, Yu. A., and STYROV, V. V., Institute of Physical Chemistry, Academy of Sciences USSR, and Tomsk Polytechnic Institute

"Theory of Radical-Recombination Luminescence. 3. Kinetics of Radical-Recombination Luminescence"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya. No 8, Aug 71, pp 1664-1672

Abstract: The kinetics of the build-up of radical-recombination luminescence (RRL) were first studied by V. A. SOKOLOV and A. N. GORBAN'. The present article is a continuation of these studies. Experiments were performed on a vacuum device with a mercury diffusion pump, permitting a vacuum of 10^{-5} torr. RRL was excited by atomic hydrogen obtained by means of a high-frequency discharge. Kinetic curves were plotted in the 300-550°K range at various hydrogen pressures. Powdered phosphors were applied from an alcohol suspension to glass substrates. It was found that the character of the kinetic isotherms differs for a very clean surface and one that is insufficiently clear. The kinetic curve rises in the former case, falls in the latter case due to the fact that the surface holds residues of pre-chemisorbed hydrogen in the 1/2

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VOL'KENSHTEYN, F. F., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 8, Aug 71, pp 1664-1672

charged state, the hydrogen being gradually removed from the surface as a result of the recombination reaction. After RRL halts, the content of the charged form of chemisorption on the surface first rises, then begins to decline as a result of desorption. The initial ascending branch of the curve is due to the fact that the system approaches steady-state electronic equilibrium in the absence of recombinations. In the case where the discharge is interrupted, then is on again after a certain pause, the "memory effect" is observed. The character of the RRL kinetics here depends on the length of the pause, due to the fact that the quantity of chemisorbed hydrogen remaining on the surface after the pause varies according to the pause length.

The authors thank V. A. SOKOLOV for discussing the results of the work and for his guidance in the experimental portion.

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Luminescence

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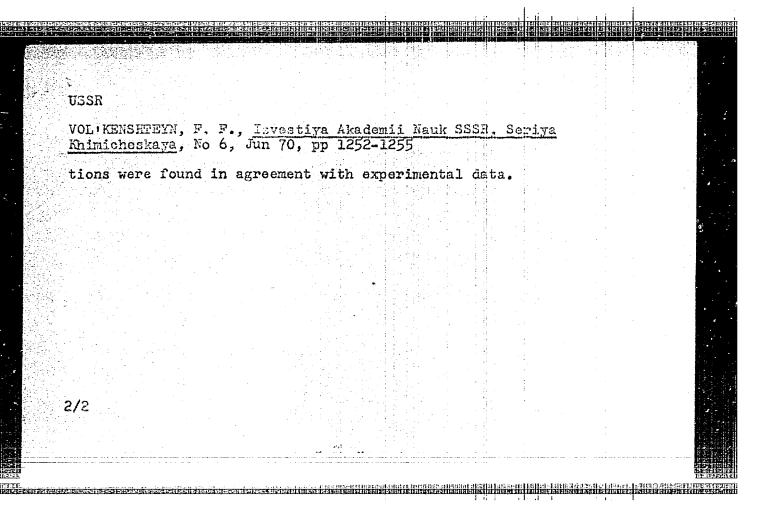
UDC 541.12.036 + 541.515 + 535.37

VOL: KENSHTEYN, F. F., Institute of Physical Chemistry, Moscow, Academy of Sciences USSR

"Theory of Radical-Recombination Luminescence in Semiconductors. II. Influence of Temperature and Pressure on Intensity of Radical-Recombination Luminescence"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Knimicheskaya, No 6, Jun 70, pp. 1252-1255

Abstract: Radical-recombination luminescence (RRL) originates in chemical transformations occuring on the surface of a crystallophore. In this study the basic band of RRL was examined as a function of the temperature and pressure. With some assumptions the position of Fermi levels was calculated as a function of both temperature and pressure. The intensity of luminescence in a linear function of the pressure at low pressures, while its temperature function exhibits a maximum. These theoretical calculated



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UDC 543.42 + 541.515 + 535.37

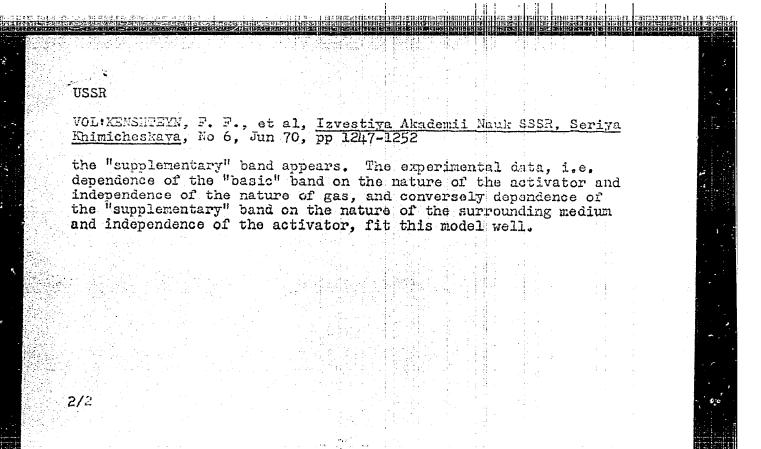
VOL: KENSHTEYN, F. F., SOKOLOV, V. A., Institute of Physical Chemistry, Moscow, Academy of Sciences USSR

"Theory of Radical-Recombination Luminescence in Semiconductors.

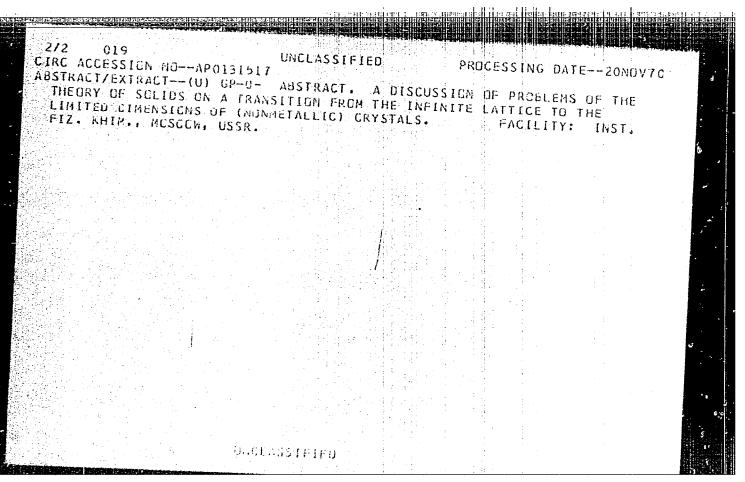
I. Spectral Structure of Radical-Recombination Luminescence"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 70, pp 1247-1252

Abstract: Radical-recombination luminescence (RRL) is a relatively new field of investigation and in this paper an attempt is made to develop quantitative theory for it. The RRL spectrum consists of two bands, as a rule, one — the "basic" — is also observed in photo luminescence, while the other — the "supplementary" — appears only in RRL. According to the proposed mechanism, the act of a recombination of free atoms or radicals on the surface results in an appearance of a pair of free electron-free hole. If the recombination of the electron and the hole accompanied by release of a quantum goes through, a level of an activator, the "basic" band appears. If this recombination takes place through the local level of the chemisorbed atom itself (the radical), 1/2



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AUTHORVCLKENSHTEYN, F.F.				ъ
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SOURCE-KINET, KATAL, 1970, 1	1(2), 395-402			P
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USSR

FISHMAN, S. N., CHERNEYKIN, V. A., and VOL'KENSHTEYN, M. V., Institute of Molecular Biology, USSR Academy of Sciences, Moscow

"Role of Ion Exchange Processes in the Mechanism of Altered Na Permeability of Excitable Membranes"

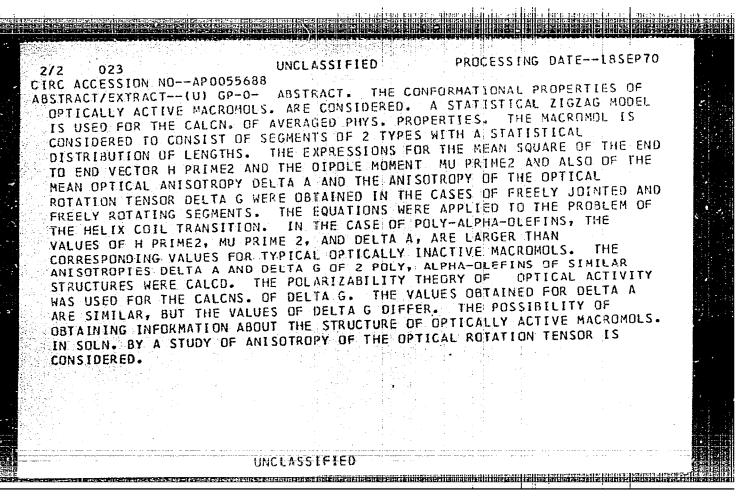
Moscow, Biofizika, Vol 18, No 5, Sep/Oct 73, pp 834-838

Abstract: Experimental studies have led to the conclusion that pores of excitable membranes may exist in a state which is permeable to Na, as well as impermeable. In the impermeable state they can bind Ca. It is now suggested that yet another state of the pores may exist in which Ca is replaced by K, the extent of which depends on K concentration in the incubate. From the latter state the pores may become permeable to Na. In assence, an electrochemical gradient may be established along which the positive ions are conducted.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

PROCESSING DATE--18SEP70 UNCLASSIFIED 023 1/2 TITLE-CONFORMATIONAL CHARACTERISTICS OF POLYMORPHOUS OPTICALLY ACTIVE MACROMOLECULES: A STATISTICAL ZIGZAG MODEL -U-AUTHOR-103)-BIRSHYTEYN, T.H., ZUBKOV, V.A., VOLKENSHTEYN, H.V. COUNTRY OF INFO--USSR SOURCE--J. POLYM. SCI., PART A-2 1970, 8, 177-90 DATE PUBLISHED----70 SUBJECT AREAS--CHEMISTRY TOPIC TAGS--OPTIC PROPERTY, MOLECULAR STRUCTURE, MODEL, OPTIC ACTIVITY, STERENCHEMISTRY, FREE ENERGY CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED STEP NO--US/0000/70/008/000/0177/0190 PROXY REEL/FRAME--1984/0997 CIRC ACCESSION NO--AP0055688 UNCLASSIFIED



USSR

VOL'KENSHTEYN, M. V. and FISHMAN, S. N., Institute of Molecular Biology, Academy of Sciences USSR

"Theory of Transport Phenomena in Biological Membrane. II. Active Ion Transport"

Moscow, Biofizika, No 1, 1970, pp 31-37

Abstract: The authors propose a model that involves both the passive and the active transport of sodium and potassium ions in biological membranes. The mechanism of active transport is shown to have features in common with the mechanism of passive transport. It differs, however, in the force that ensures the directed movement of ions (it is the gradient of electrochemical potential of the particular type of ion in passive transport, whereas it is the gradient of potential of the complex created by the biochemical reaction in active transport) as well as in the cooperative nature of the metabolic enzyme reaction by which ions are transported from one center to another.

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UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THE THEORY OF TRANSPORT PHENOMENA IN BIOLOGICAL MEMBRANES: II. THE
ACTIVE TRANSPORT OF JONS -UAUTHOR-(02)-VOLKENSTEIN, M.V., FISHMAN, S.N.

COUNTRY OF INFO--USSR

SOURCE-BIOCHIM BIOPHYS ACTA 203(11: 10-16. ILLUS. 1970.

DATE PUBLISHED ---- 70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES

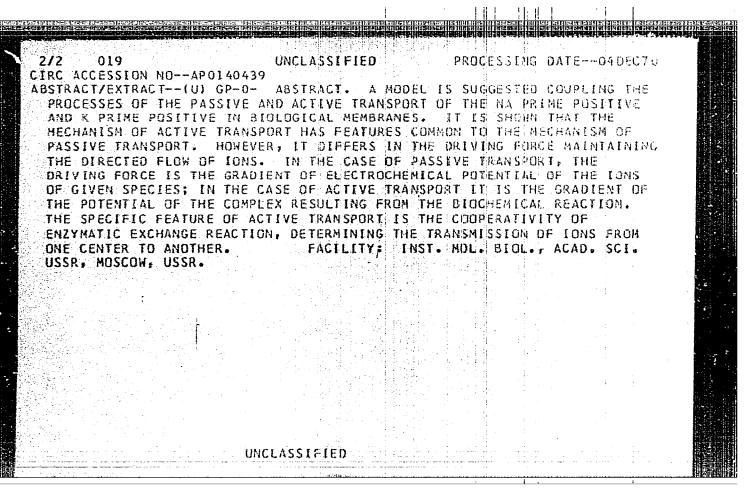
TOPIC TAGS--TRANSPORT PHENOMENON, SODIUM, POTASSIUM, ENZYME

CONTROL MARKING--NO RESTRICTIONS

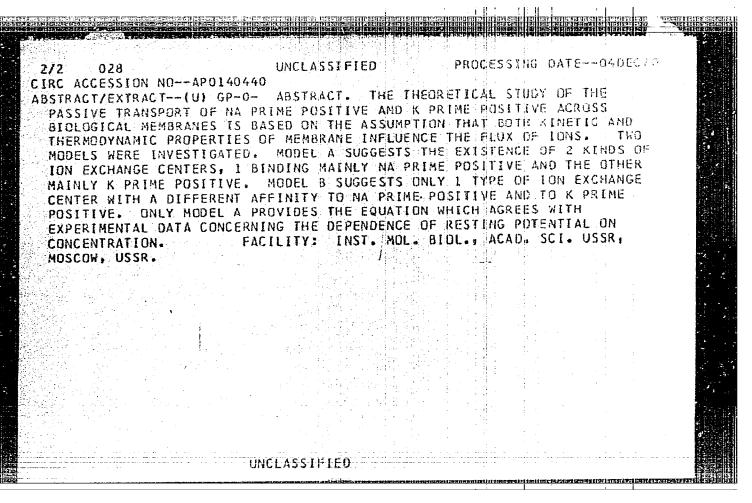
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CIRC ACCESSION NO--APO140439

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PROCESSING DATE--04DEC70 UNCLASSIFIED 1/2 028 TITLE-THE THEORY OF TRANSPORT PHENOMENA IN BIOLOGICAL MEMBRANES: 1. THE PASSIVE TRANSPORT AND RESTING POTENTIAL -U-AUTHOR-(02)-VOLKENSTEIN, M.V., FISHMAN, S.N. COUNTRY OF INFO--USSR SOURCE-BIOCHIM BIOPHYS ACTA 203(1): 1-9. ILLUS. 1970. DATE PUBLISHED ---- 70 SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES TOPIC TAGS-SODIUM, POTASSIUM, TRANSPORT PHENOMENON, ION EXCHANGE, THER MODYNAMIC PROPERTY CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY FICHE NO----F070/605013/F07 STEP NO--NE/0000/70/203/001/0001/0009 CIRC ACCESSION NO--APO140440 UNCLASSIFIED



1/2 COS UNCLASSIFIED PROCESSINC DATE--20NGV7C FITTLE--REGULATORY RCLE OF ENZYMES AND ENZYMIC CONTROL -U
AUTHOR--VCLKENSHTEYN, M.V.

CCUNTRY OF INFO--USSR

SCURCE--BICFIZIKA 1970, 15(21, 215-24)

DATE PUBLISHEG-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

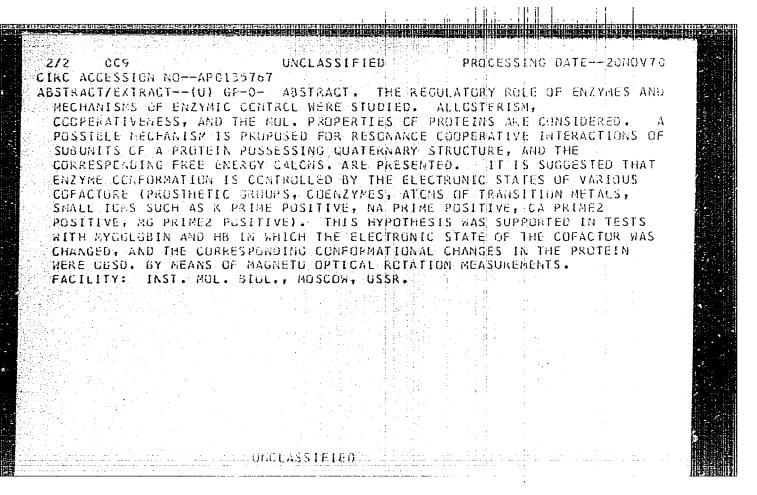
TCPIC TAGS--ENZYME, REGULATOR

CCNTRCL MARKING--NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3007/0271 STEP NO+-UR/2017/70/015/002/0215/0224

CIRC ACCESSION NO--APO135767

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L/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THEORY OF TRANSPORT PHENOMENA IN BIOLOGICAL MEMBRANES -UAUTHOR-(02)-VOLKENSHTEYN, M.V., FISHMAN, S.N.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 31-7

DATE PUBLISHED------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

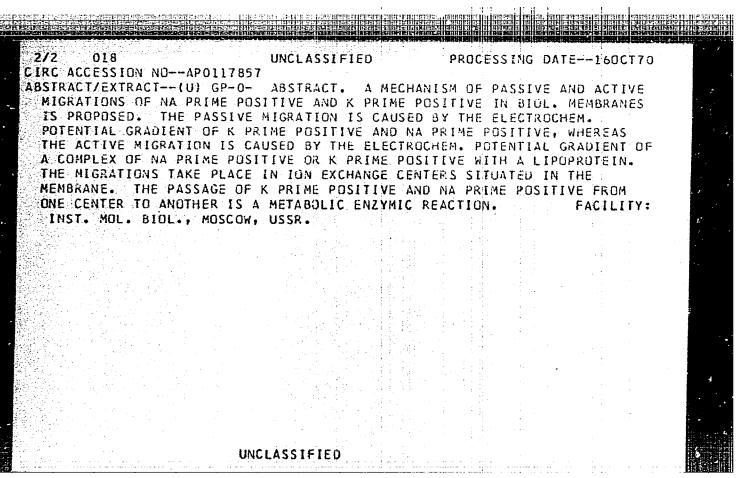
TOPIC TAGS--CELL MEMBRANE, SODIUM COMPOUND, POTASSIUM COMPOUND, LIPOPROTEIN, BIOPOTENTIAL, ION EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1996/0631 STEP NO--UR/0217/70/015/001/0031/0037

CIRC ACCESSION NO--APO117857

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VOLKENSHPENN, M.	V.
Acc. Nr: APOO44384 Ref. Code: UR 0463 PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1, pp 118-128 INVESTIGATION OF HISTONE STRUCTURE	
Ramm, Ye. I.; Birshteyn, T. M.; Bolotina, I. A.; Vorob'yev, V. I.; Dmitrenko, L. V.; Nekrasova, T. N.; Vol'kenshteyn, M. V. Institute of Cytology and Institute of High-Molecular Weight Compounds, Academy of Sciences, USSR, Lennyrd and Institute of Molecular Diology, Academy of Sciences, USSR, Moscow	
The structure of four histone fractions (fi. fi. (a), fi. (b), fi.) has even studied by the methods of optical ratatory dispertion, potentiometric titration and viscometry. The analysis of the data obtained made it possible to draw a conclusion that histones are not globular proteins. The dependence of reduced viscosity on the charge of the molecule and the ionic strength of the solution showed that the dimensions of the histone molecules depend to a large extent upon the forces of electrostatic interaction. This suggests that the histone molecules are conformationally flexible and probably exhibit the conformation of a statistical coll with the incorporation of helical regions. REEL/FRAME 02	
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The potentiometric titration curves have been obtained for all the histone fractions and have been used for calculating the number of ionizable groups, for determining their pK' and the change in the mean overall charge of the molecules with the pH alteration of the medium. The effect of pH and the ionic strength of the solution on the a-helix content of various histone fractions was studied. The data obtained were compared and a conclusion was drawn about the non-uniform distribution of the charged groups in the histone molecules. On one hand, histones contain at neutral pH coil hisped sequences enriched with basic amino acid residues with high dentity of the positive charge and on the other hand, regions capable to form helical, structures and containing both acid and basic amino acid residues. A model is proposed describing the structure of histones. The important differences between histone fractions were shown to exist mainly due to the distribution of the charges along the chain.

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FESENKO, Ye. Ye., KULAKOV, V. N., LYUBARSKIY, A. L., and WOL'KENSHTEYN, M. V.

"Three-Phase Kinetics of the Recombination of Myoglobin With Carbon Monoxide at Low Temperature"

Moscow, Doklady Akademii Nauk SSSR, Vol 205, No 2, 1972, pp 485-487

STEENSTERN THE PROPERTY OF THE

Abstract: A study of the recombination of myoglobin (Mb) with CO after photodissociation showed that the reaction proceeded via three pathways. These were designated as very fast, fast, and slow reactions. The energy, the entropy, and the enthalpy of activation were calculated for each reaction in both glycerine and a water-glycerine mixture. The rate constant and relative rates of reaction are given for selected temperatures between -100°C and 0°C. Conformational shifts in Mb·Co complexes were described.

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Biophysics

USSR

FISHMAN, S. N., CHERNEYKIN, V. A., and VOL'KERSHTEYH, M. Y., Institute of Molecular Biology, Academy of Sciences USSR, Moscow

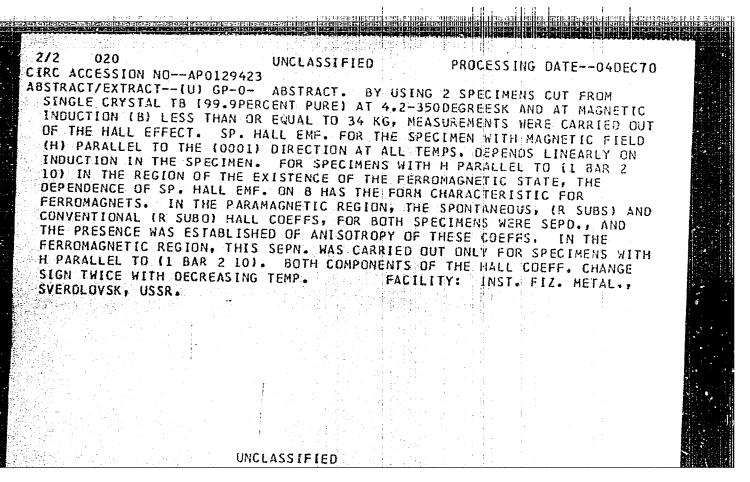
"Molecular Mechanism of the Initiation of Muscle Contraction"

Moscow, Biofizika, No 6, 1972, pp 1,061-1,067

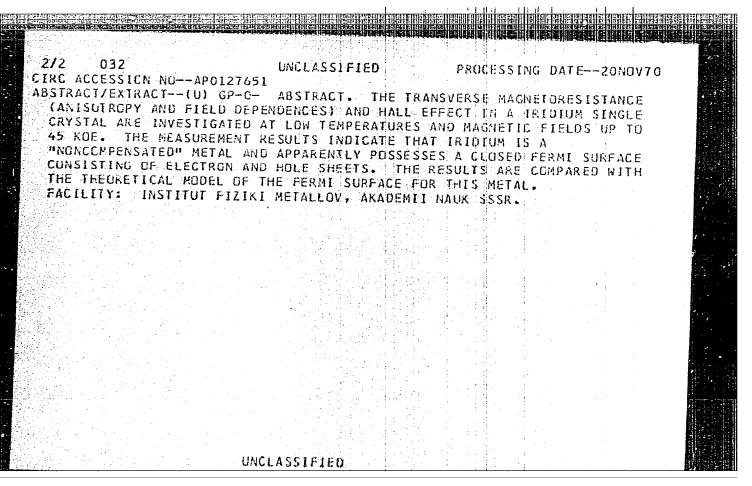
Abstract: The authors propose a mathematical model that describes the kinetics of muscle fiber response to the application of depolarizing potential to the membrane. The model assumes that the development of isometric contraction is limited to two main reactions: (a) desorption of Ca⁺⁺ from the reticulum due to the charge in the electrical field and (b) formation of an actomyosin bridge and subsequent conformation change in protein. The behavior of the model system in time is examined in three situations: (a) after the application of fixed potential to the membrane, (b) after brief polarization of the membrane, and (c) after stimulation of the muscle fiber by a series of short impulses (tetanus).

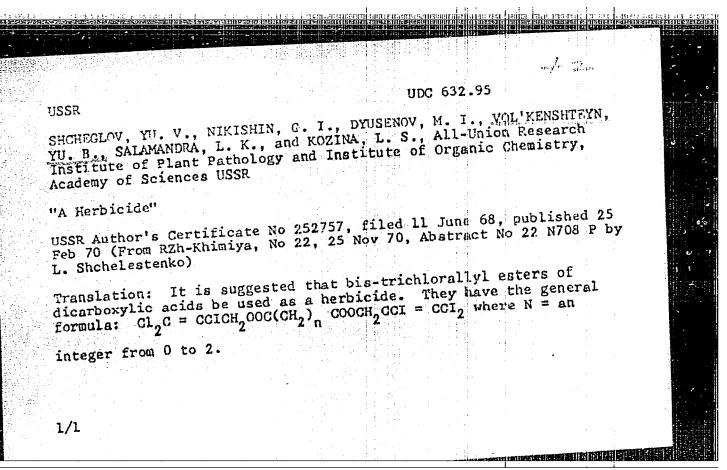
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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70 TITLE--HALL EFFECT IN A TERBIUM SINGLE CRYSTAL -U-AUTHOR-1021-FEDOROV, G.V., VOLKENSHTEYN, N.V. COUNTRY OF INFO--USSR SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1374-9 DATE PUBLISHED----70 SUBJECT AREAS--PHYSICS TOPIC TAGS-SINGLE CRYSTAL, TERBIUM, HALL EFFECT, THERMAL EFFECT CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAHE--3003/0167 STEP NO--UR/0181/70/012/005/1374/1379 CIRC ACCESSION NO-APOL29423 UNCLASSIFIED



UNCLASSIFIED PROCESSING DATE-- 20NOV70 TITLE-ON THE FERMI SURFACE IN IRIDIUM -U-AUTHOR-(03)-VOLKENSHTEYN, N.V., NOVOSYCLOV, V.A., STARTSEV, V.YE. CCUNTRY OF INFO--USSR SOURCE-ZHURNAL EKSPERIMENTAL NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1609-1611 DATE PUBLISHED -----70 SUBJECT AREAS-PHYSICS TOPIC TAGS--MAGNETORESISTANCE, ANISOTROPY, HALL EFFECT, SINGLE CRYSTAL, IRIDIUM, FERMI SURFACE, ELECTRON CENTROL MARKING-NO RESTRICTIONS OCCUMENT CLASS-UNCLASSIFIED PRUXY REEL/FRAME--3002/00GL STEP NO--UR/C056/70/058/005/1609/1611 CIRC ACCESSION NO--APOL27651 UNCLASSIFIED





CIA-RDP86-00513R002203520016-0 "APPROVED FOR RELEASE: 08/09/2001

UDC 669.71.018.9.4

USSR

TSABROV, N. D., VINOKUROV, N. D., MARCHENKO, A. M., PECHENEV, V. S., KOPYTOV, G. A., VOL'KHIN, G. D., BERNSHTEYN, G. G.

"Experiment in Operating a Vacuum Mixer"

Tekhnol. legkikh splayov. Nauchno-tekhn. byul VILSa (Light Alloy Technology. Scientific and Technical Bulletin of the VILS), 1970, No.5, pp 26-31 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G206)

Translation: The application of a vacuum mixer for evacuating liquid alloys based on aluminum is expedient and has a number of advantages over the methods used earlier: the gas saturation of the metal is reduced appreciably; the technological plasticity of the ingots is increased; an increase in the casting rate by 10-15% is possible; and the number of defects during ultrasonic control of the products is reduced sharply. The schematic of the mixer and its operation are described. There are 4 illustrations and 1 table.

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CIA-RDP86-00513R002203520016-0" APPROVED FOR RELEASE: 08/09/2001

UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--HETEROGENEOUS ION EXCHANGE REACTIONS IN ZINC SULFIDE, COPPER
SULFATE AND WATER, ZINC SULFIDE, COPPER SULFATE, SULFURIC ACID AND
AUTHOR-(02)-LVOVICH, B.I., VOLKHIN, VAV.

COUNTRY OF INFO--USSR

SOURCE-ZH. NEORG. KHIM. 1970, 15(2), 520-4

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TERNARY FLUID SYSTEM, AQUEOUS SOLUTION, ION EXCHANGE, ZINC SULFIDE, COPPER SULFATE, SULFURIC AICD, HYDROXIDE

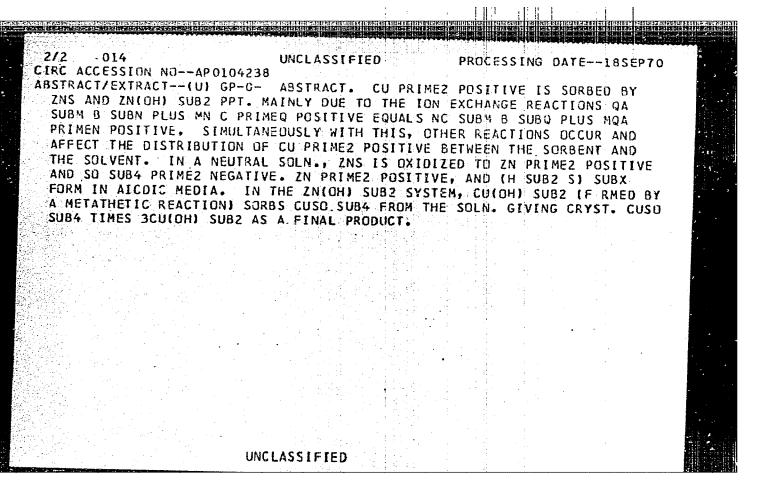
CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1987/0792

STEP NO--UR/0078/70/015/002/0520/0524

CIRC ACCESSION NO--APOLO4238

UNCLASSIFIED



USSR

VOL'KHINA, T. P., KAGAN, B. I., and MYASNIKOVA, G. P., Sverdlovsk Scientific Research Institute of Labor Hygiene and Occupational Diseases"

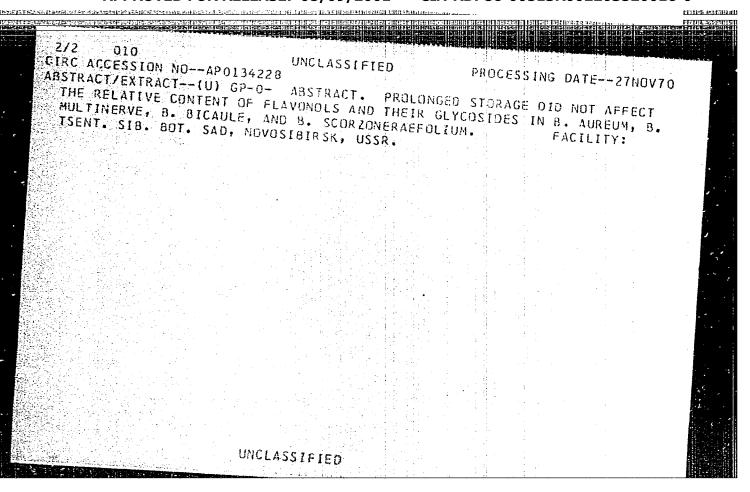
"Physiological Evaluation of the Difficulty of Work"

Moscow, Gigiyean i Sanitariya, No 4, 1971, pp 100-102

Abstract: Various physiological indexes (pulse rate, muscular strength, coordination of movement, reactions to sound and light, attention, and so forth) were investigated as a means of grading the difficulty of the jobs of several categories of workers - lathe operator, machinist, milling machine operator, engineer/programmer - in a pilot machine plant. Pilot plants are characterized by the lack of strict control of the industrial processes, uniqueness of the products, creative nature of the workers' participation, and so forth. Judging primarily by the pulse rate, the lathe operator's job is moderately difficult (90 to 99 beats per minute) while the jobs of the machinist, milling machine operator, and engineer/programmer are light (less than 90 pulse beats per minute). But with regard to nervous strain and fatigue, all four categories of workers are ecsentially a like, i.e., the work of a lathe operator, machinist, and milling machine operator in a pilot plant is essentially a variety of mental

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

UNCLASSIFIED TITLE--FLAVONOL LEVEL IN HERBARIUM SPECIMENS OF BUPLEURUM STORED FOR PROCESSING DATE--27NOV70 DIFFERENT PERIODS OF TIME -U-AUTHOR-1021-MINAYEVA, V.G., VOLKHONSKAYA, T.A. COUNTRY OF INFO--USSR SOURCE-RAST, RESUR. 1970, 6(1), 107-10 DATE PUBLISHED----70 SUBJECT AREAS -- BIOLOGICAL AND MEDICAL SCIENCES TOPIC TAGS--PROCESSED PLANT PRODUCT, KETONE, BIOLOGIC STORAGE STABILITY, CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3006/0460 STEP NO--UR/0503/70/006/001/0107/0110 CIRC ACCESSION NO--APO134228 UNCLASSIFIED



USSR

VOLKOLUPOVA, R. T.

"Algorithms for Determination of Paths in Modeling Graphs"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Automation Instruments and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 26, pp 32-37 (Translated from author).

Translation: Algorithms are described for determination of paths of fixed lengths in a modeling graph, determination of arbitrary paths of minimum length (with the minimum number of lines). The algorithms deal with network sets. Examples are presented of the solution of the problems studied.

1/1

- 48 _

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

VOLKOV, A. A., VOLKOLUPOVA, R. T.

"The Problem of the Use of Methods of Graph Theory for Calculation of Complex Network Systems"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Automation Instruments and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 26, pp 38-42 (Translated from authors).

Translation: The principle of decomposition of graphs modeling complex network systems is studied. A method is suggested for aggregation of subgraphs into a single graph in the process of transformation of initial information on a graph into a system of equations describing the given network system. A method of selection of all and the optimal (according to a given criterion) trees of a graph, as well as calculation of this number, are studied.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

UDC: 51

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VOLKONSKIY, V. A., IVANKOV, S. A.

"Theorems on Convergence of Iterative Processes"

Moscow, Mat. metody resheniya ekon. zadach--sbornik (Mathematical Methods of Solving Economics Problems--collection of works), No 3, "Nauka", 1972, pp 37-51 (from RZh-Kibernetika, No 5, May 73, abstract No 5V601 [from the introduction])

Translation: A paper by these authors (RZhMat, 1970, 12V441) showed that an extensive class of iterative procedures used in solving such mathematical problems as finding points of equilibrium in games, finding the minimum of a function, problems of linear and convex programming, finding the root of a regression equation, are equivalent to one another in the mathematical sense. They may be treated as a description in different languages of the same class of iterative processes so that convergence theorems proved, say, for the process of finding points of equilibrium in games, when "translated" into the language of regression equations give

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CIA-RDP86-00513R002203520016-0"

APPROVED FOR RELEASE: 08/09/2001

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VOLKONSKIY, V. A., IVANKOV, S. A., Mat. metody resheniya ekon. zadach, No 3, "Nauka", 1972, pp 37-51

theorems on convergence of the method of gradient descent, etc. This paper is devoted to extending the conditions of convergence of this class of processes and its applications.

2/2

USSR

ALEKSEYEV, A. M., VOLKONSIY, V. A., SHAPIRO, A. D.

"Methods of Optimization of Plans by Automatic Formation of Plan Versions and Their Applications"

Ekonomika i Mat. Metody [Economics and Mathematical Methods], 1973, Vol 9, No 1, pp 3-18 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V539, by Yu. Finkel'shteyn).

Translation: Versions of a problem of the following form are studied:

$$\sum_{k=1}^{K} \sum_{j=1}^{J_k} c_j z_j \rightarrow \min, \tag{1}$$

$$\sum_{k=1}^{K} \sum_{j=1}^{J_k} c_{j}^{k} x_{j}^{k} \rightarrow \min, \qquad (1)$$

$$\sum_{k=1}^{K} \sum_{j=1}^{J_k} a_{j}^{k} x_{j}^{k} \Rightarrow b_{l}, i = 1, ..., l, \qquad (2)$$

$$\sum_{k=1}^{J_k} \sum_{j=1}^{L} x_{j}^{k} = 1, k = 1, ..., K, \qquad (3)$$

$$\sum_{l=1}^{J_k} x_j^k = 1, \ k = 1, \dots, K, \tag{3}$$

$$x_{j}^{k} > 0, j = 1, ..., J_{K}, k = 1, ..., K,$$
 (4)

$$x_j^k = 0 \text{ or } i, j = 1, ..., J_k, k = 1, ..., K_1(K_1 \le K).$$
 (5)

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

Alekseyev, A. M., Volkonsiy, V. A., Shapiro, A. D., Ekonomika i Mat. Metody, 1973, Vol 9, No 1, pp 3-18.

Most frequently, model (1)-(5) is used for planning or production of a group of enterprises or branches, both selection of versions of development of production and for the production program. Recently, formalizations such as (1)-(5) have begun to be applied also to path determination problems.

Calculations using a model make it possible to select the optimal combination of versions. Formation of the file of initial data is usually done manually, sharply limiting the number of versions which can be practically tested. The advantages and disadvantages of multiple-version and "versionless" statements of the problem are discussed. In the opinion of the authors, the multiple-version problem should be given the task of determining interrelationships between objects, while models of individual objects (perhaps of significantly more complex structure) should be used to formulate version in the multiple-version model. The greatest experience in automatic formulation of versions has been accumulated for the case of the linear model -- the tradition here extends back to the Danzig-Wolf decomposition algorithm.

As concerns the solution of the multiple-version problem itself, particular attention is given to the use of estimates in the problem, including integer variables. The methods of utilization of estimates described yield

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

Alekseyev, A. M., Volkonsiy, V. A., Shapiro, A. D., Ekonomika i Mat. Metody, 1973, Vol 9, No 1, pp 3-18.

the best results as applied to partially integer problems. The results of solution of a number of practical problems are described briefly: 1) optimal development of the mining fund of the southern Kuznets basin, 2) optimal placement of mobile wood cutting units for cutting of the forest in the flooding zone of the Boguchanskaya Hydroelectric Power Plant, 3) optimal development and placement of permanent and temporary repair basis for ruil-road machine stations, 4) optimization of the plan for creation of a territorial production complex, matched to the plan of development of a construction base. 30 biblio. refs.

3/3

1/2 005 UNCLASSIFIED PROCESSING DATE--300C170
TITLE--CEMENT MADE FROM PHOSPHORIC ACID GYPSUM PRODUCTION BYPRODUCT -U-

AUTHOR-VULKGNSKIY. B.V.

COUNTRY OF INFO-USSR

SOURCE-TSEMENT 1970, (2), 16-17

DATE PUBLISHED ---- 70

SUBJECT AREAS -- MATERIALS, MECH .. IND., CIVIL AND MARINE ENGR

TOPIC TAGS-CEMENT, GYPSUM, INDUSTRIAL BYPRODUCT, SULFURIC ACID

CONTROL MARKING-NO RESTRICTIONS

DUCUMENT CLASS—UNCLASSIFIED PRUXY REEL/FRAME—2000/1683

STEP ND--UR/0101/70/000/002/0016/0017

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CIRC ACCESSION NO--AP0125304

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

2/2 005 UNCLASSIFIED PROCESSING DATE--30UCT70 CIRC ACCESSION NO--AP0125304 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. INDUSTRIAL EXPTS. WERE MADE WITH SIMILAR TO 3000 TONS OF PHOSPHORIC ACID BYPRODUCT GYPSUM OF THE FOLLOWING CCMPN. (PERCENT, CALCED. ON A DRY BASIS): CAD 39.7, P SUB2 O SUB5 1.17, SOL. P SUB2 O SUB5 0.46, F SUBTOTAL 0.4, SIO SUB2TOTAL 41.33. GYPSUM WAS DRIED AT 270DEGREES. THE MOISTURE CONTENT AFTER DRYING WAS 3.5-4.32PERCENT. DURING DRYING SOPERCENT OF THE F VOLATILIZED, DURING CALCINATION ANOTHER 25PERCENT. ABOUT 8-12PERCENT OF PHOSPHORIC ACID GYPSUM WAS CARRIED OFF WITH THE WASTE GASES. ABOUT SOPERCENT OF THIS AMT. WAS RECOVERED IN THE CYCLONES. THE REMOVAL OF MOISTURE IN THE DRYING DRUMS WAS 40-50 KG-M PRIMES HR. PHOSPHORIC ACID BYPRODUCT GYPSUM CAN BE ADDED TO THE RAW MATERIAL MIXT. WITHOUT DRYING BUT IN THIS CASE THE SU SUB2 CONCN. IN THE RUTARY KILN GASES DECREASES, WHICH GREATLY REDUCES THE PRODUCTION OF H SUB2 SO SUB4. CEMENT IN PREPD. FROM THE FULLOWING COMPONENTS: PHUSPHORUS SNHYDRIDE 80, SAND 10, ASHES 5, COKE 5 WT. PERCENT. THE CHARGE IS GROUND TO A RESIDUE OF 18-25PERCENT ON A SIEVE NO. 008 AND 3-6PERCENT ON A SIEVE NO. 02. CALCINATION TOOK PLACE UNDER THE SAME CONDITIONS AS WITH NATURAL ANHYD. THE DUTPUT OF H SUB2 SO SUB4 HAS 150-7 TONS-DAY AND WAS NEARLY THE SAME AS WITH NATURAL ANHYDRITE. THE PORTLAND CEMENT CLINKER WAS YELLOW OWING TO ITS CONTENT OF SULFIDE S. IT HAS A HIGH POROSITY, ALITE HAD A ZONAL STRUCTURE. PHYS. HECH. TESTS SHOWED GOOD QUALITIES FOR THE CLINKER.

UNCLASSIFIED

USSR

WDC 669.187.6

NIKULIN, A. A., ARTEM'YEV, V. D., VOLKHONSKIY, L., A., KLYUYEV, M. M., TOPILIN, V. V., VOLKOV, S. YE., and SHARAPOV, A. A.

"Study of Methods of Acting on Processes of Crystallization of Ingots During Electric Slag Remelting"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -- Collection of Works), No 75, Metallurgiya Press, 1970, pp 161-167

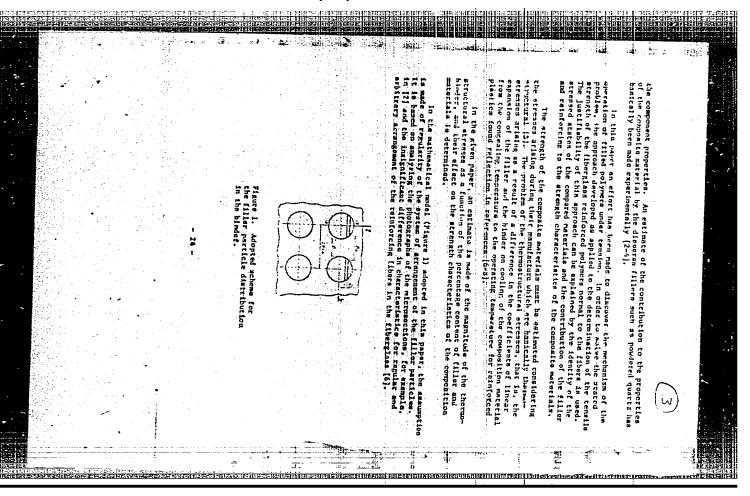
Translation: Results are presented from a study of the control of crystallization of an ingot by acting on the drop transfer and hydrodynamic processes in the slag and metal bath by two methods, performed on a latoratory electric slag installation. The methods are remelting of electrodes moving eccentrically relative to the axis of the crystallizer, and remelting of electrodes in a longitudinal constant magnetic field, created by a solenoid wound around the cover of the crystallizer and supplied by a controlled direct current source. 3 figures; 2 tables; 5 biblio. refs.

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-17

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		seem developed which permits determination of t	commercial with actuating the afficement to polymers. In reference [1], a study effect of rillers. At the same opinion of the authoro [2], who appediently used when characteristics actually, as in derent ratio, actually, as in derent ratio, to the binder can "baracteristics."	experience of filled polymers experimental studies of the filled with powdered mustre. Index and a ten-entry bibliography and a ten-entry bibliography. The problem of discovering the characteristics of a composite nature	A first year and a of the carefulles of the must be second. Aftenual concurring in the are taken into account, define the strength of the life percentage content of analyzing the cherostructure of the components. The cale of the components. The cale attempts and thermatructure of the components.	Thretele by V. 1. Baydgiko, V. 1. Voltanorova V. I. Burovich, Leningrad Hechanics Inditute: Rips, Hekhmika Follmetov. Russian, No 1, 1973, edb 16 November 1971, pp 97-10]	SIL -to urrita v 20 Laken	So: JPRS 55610		
		e determination of their	g (17 m g t)	extensth of filed polymers is compared with the presented contrainents activities of the composites based on epoxy resin filed with powdered quarte. There are three filestrations and a ten-entry bibliography. There are three of discovering the contribution of a filler to the testion of a composite material of the testion of a composite material.	A fluir year and of the effect of a tiller on the tensile strength characteristics of polymers. The thormostructural strengs account into composite dwyling its congesting are taken into account. The relations are presented which define the strength of the filler polymer as a function of the percentage content of filler. During the process of analyzing the otherwistructural stresses, the analyzical relation was obtained for the coefficient of inear expansion of the components. The calculated waters are presented for the krempth and thermostructural stresses for composites with inferent filler content. The character of composites with	0, V. 1, Vnlignorry, v. 1, Rechan 1ka fol fracery, Rus	STERNOTI CHARACTERISTICS OF			
		, the mathematical apparatus has their mechanical properties by	in the properties of the problems in the properties of the strengthoning the strengthoning that to agree with the term "strengthoning" is property of the siven filter—the sime filter—the sime filter—the size for the size filter with dif- when cartain composition	of a filler to the strongth	ler on the tennile The thermostructural Ing te congenile are presented which er as a function of er as a function of er the process of the distribution of oral distribution of oral distribution of oral distribution of oral distribution of	L Hurovich, Leningrad sian, No 1, 1973, submitted	UPC 678:579.4.019.3		W	

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"



USSR

UDC 620.193:669.296

GROMOVA, A. I., GERASIMOV, V. V., KABANKOVA, N. A., SHUT'KO, I. G., and VOLKHONSKIY, YE. V.

"Corrosion and Electrochemical Behavior of Zirconium-2.5 Percent Niobium Alloy in Water and Steam at High Temperature"

Moscow, Atomnaya Energiya, Vol 29, No 5, Nov 70, pp 364-365

Abstract: A study was made of the corrosion and electrochemical behavior of zirconium-2.5 percent niobium alloy in water of varying composition at 285° C. In a deaerated environment at $\sim 300^\circ$ C the passive region remains up to + 1.8 (NHE). Higher positive potentials are marked by transition to the transpassive region. An increase in the pH of the deaerated environment to 10 (compared to pH = 7) does not intensify corrosion of the alloy during irradiation or outside the reactor. The presence of ammonia (pH= 10) and oxygen in the water at 300° C increases the alloy corrosion rate.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

Electronic Materials

USSR

UDC 621.317.39:531.7

SHNEYDER, A. YU., ZHURAVLEV, V. S., Candidates of Technical Sciences, <u>VOLKINSH</u> TEYN, YE. N., KOLESNIKOVA, I. N., Engineers

"Pressure-Sensitive Sensors made of Electrically Conducting Polymers"

Moscow, Pribory i Sistemy Upravleniya, No 2, 1972, pp 40-41

Abstract: The design and operating characteristics are presented for a pressure-sensitive sensor built at the Central Scientific Research Institute of Prosthetics and Orthopedic Appliances. The sensor is made of porous polymer material (sponge rubber, porolon, and so on) impregnated with various electrically conducting compounds (resins, enamels, and so on). The operating principle of the element is compared with the operating principle of sensors with carbon columns. The dispersion zone of the load characteristics of a series of 10 sensors is plotted, and oscillograms are presented analysis of which characteristics of a strain gage. The sensor permits recording of processes taking place with frequencies to 6-8 hertz. Both the static and dynamic characteristics of the sensors are presented. A study of the static characteristics showed that on variation of the pressure from zero to 0.8 kilogram-force/cm², its resistance varies within the range of 100-2 kilohms.

USSR

WDC 669.244

VOLKOGON, G. H., Orsk

"Desulfuration of Nickel by Rare Earth Metals"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 4, Jul/Aug 72, pp 67-71

Abstract. The rules governing the kinetics of the desulfuration process of nickel by rare earth metals were determined. The process consists of melting and dissolving the desulfurator-metal, the desulfuration reaction, and the elimination of reaction products from the sphere of interaction of rare earth metals with nickel sulfides. The interrelationship between the quantity of the addition and the quantity of S in the metal and the effect of the temperature on the desulfuration process was determined. On the basis of established temperature dependent changes of isobaric potentials of La and Ce sulfides, the affinities of La and Ce with S in Ni can be evaluated. Rare earth metals proved to be effective desulfurators. As the maximum change of the isobaric potential goes with the development of Ia₂S₃ and

Ca2S₃ sulfides, it is assumed that these are the most probable reaction types of sulfides in Ni. Results of the Phase analysis confirm this assumption. Two illustrations, one table, one formula, eleven bibliographic references.

1/1

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USSR

UDC: 621.374.5(088.8)

VOLKOGON, V. P., SITNIKOV, L. S., UTYAKOV, L. L.

"A Wide Pulse Shaper"

USSR Author's Certificate No 265185, filed 4 Mar 68, published 17 Jun 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 16264 P)

Translation: The proposed transistorized wide pulse shaper utilizes the effect of charge accumulation in PN junctions. The device contains a saturated shaping stage with a transistor switch as a controlling leakage resistance, and a matching emitter follower. To reduce the duration of the trailing edge of the shaped pulses, the output of the emitter follower is connected through a differential network to the base of the switching transistor.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

UE/C: 51

Predius, M. M., Volkolupova, R. T.

"Mathematical Description of Flow Distribution in a Grid System"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Temat. Nauch.-tekhn. Sb. [Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 24, pp 165-170 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V498, by the authors)

Translation: A mathematical description and model of processes of gas distribution in a complex gas collecting network are studied. A system of nonlinear algebraic equations is produced, reflecting the interaction of variable factors in the process in question.

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533.6.001.5

VILENSKIY, F. A., VOLKONSKAYA, T. G., GRYAZNOV, V. P., PIRUMOV, U. G.,

"Investigation of Nonstandard Flow Conditions in an Axisymmetric Annular Plug Nozzle"

Moscow, Izv. AN SSSR: Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp

Abstract: The paper presents the results of calculations and experimental study of noistandard flow conditions in an annular plug nozzle when the external pressure pex exceeds the pressure po determined in the one--dimensional approximation from the ratio of the area of the output section of the nozzle to the area of the critical cross section. The method of characteristics is used to calculate the gas flow in the annular region enclosed between the free boundary and the edge of the plug under nonstandard conditions when $p_{\text{ex}} > p^{\text{o}}$. An experimental study is made of the flow, during which the static pressure was measured on the wall of the nozzle, and shadow photography was used to visualize the flow. The results of the experimental and theoretical study are given for a ring nozzle with M° = 3.71 and an ideal gas with constant adiabatic exponent 1.4.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

UDC:521,719.2:621.378.9

VOLKONSKIY, V. B., NESTEROVA, Z. V., POPOV, Yu. V., CHERNYAYEV, A. I.,

"A Laser Rangefinder with Super-High-Frequency Modulation of Radiation and Frequency Conversion in the Photoreceptor"

Optiko-Mekhanicheskaya Promyshlennost', No 10, Oct 73, pp 22-25

Abstract: In known light rangefinders with SHF modulation of optical radiation, phase detection of the signal received is performed in the light modulator. The operating range of a laser rangefinder can be significantly increased by attaching a reflecting film to the object, the distance to which is to be measured. This article presents the results of experimental studies of a laser rangefinder with SHF amplitude modulation of the radiation, the modulation frequency convertor in the photoreceptor and phase detection at low frequency. The laser uses a heliumneon laser operating at 755 MHz. The maximum range measurement error when a film reflector is used at a range of 25 m is 0.5 mm, with a signal/noise ratio of at least 10. Automatic recording of the results of measurements on a strip-chart recorder is possible.

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-1/3 -

Organophosphorous Compounds USSR UDC 632.954 GRAPOV, A. F., LEBEDEVA, N. V., MEL'NIKOV, N. N., SERGEYEVA, T. A., STONOV, L. D., TITOVA, L. M., and VOLKOTRIE F. N., All Union Scientific Research Institute of Chemical Means of Plant Protection "A New Herbicide Called Isophos" Moscow, Agrokhimiya, No 1, 1972, pp 96-103 Abstract: Herbicidal properties of isophos-1, ClCF were tested on many plants, including cockspur grass (Echinochloa crus-galli), and rice grass (Echinochloa oryzicola), the weeds which commonly grow with rice. Application of 2-6 kg isophos-1 or isophos-2/ha killed 100% of the above weeds. The best time for application of the herbicides was before sowing of rice, or prior to its sprouting. A surface application produced the best results. Both types of isophos in 4-8 kg/ha doses were toxic to garden orache, amaranth, and white bent. Field pennycress, spring wild oat, and knotweed were of average sensitivity toward isophos. 1/2

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CRAPOV, A. F., et al., Agrokhimiya, No 1, 1972, pp 96-103

Among the cultivated plants, rice was most resistant toward this herbicide, followed by wheat, oats, and barley (most sensitive). Cotton, beans, radishes, and sunflowers are resistant to isophos, but sugar beets and flax are sensitive. Carrots were most resistant to isophos in doses of 1-4 kg/ha and tomatoes and cucumbers showed medium resistance. Isophos was 100% effective against rice grass in meadow-marshy, soddy-podzolic, and sierozem soils. It of isophos lasted for 30-100 days after application. Analysis of the soil structure of the aryl radical determines the phytotoxic properties of amides group increases the herbicidal effects of these compounds.

2/2

- 26 -

USSR

UDC 517.946

VOLKOTSAVOV V E

"On the Local Extremum Principle for a Hyperbolic Equation With Coefficients for Lower Derivatives Having a Singularity at One Point"

V sb. Materialy Itog. nauchn. konferentsii. Krybyshev. gos. ped. in-t, 1970, Vyssh. matematika (Papers. Summation of Scientific Conference. Kuybyshev State Pedagogical Institute, 1970. Higher Mathematics -- Collection of Works), Kuybyshev, 1970, pp 23-24 (from RZh-Matematika, No 4, Apr 71, Abstract No 48388)

Translation: An extremal property (called by the author "the local extremum principle") is formulated (without proof) for the solutions of an equation of the type $x (z_{xz} - z_{uy}) + 2\alpha z_x + 2\beta z_y = 0$

in the singly-connected region D bounded by the lines y = 0, x + y = 0, x - y = 0, reducing to zero at the characteristic x + y = 0 or x - y = 1. A. Nakhushev.

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7 -

USSR

VOLKOV, A. A., VOLKOLUPOVA, R. T.

"The Problem of the Use of Methods of Graph Theory for Calculation of Complex Network Systems"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Automation Instruments and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 26, pp 38-42 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V408, by the authors).

Translation: The principle of decomposition of graphs modeling complex network systems is studied. A method is suggested for aggregation of subgraphs into a single graph in the process of transformation of initial information on a graph into a system of equations describing the given network system. A method of selection of all and the optimal (according to a given criterion) trees of a graph, as well as calculation of this number, are studied.

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USSR

UDC: 681.325.3

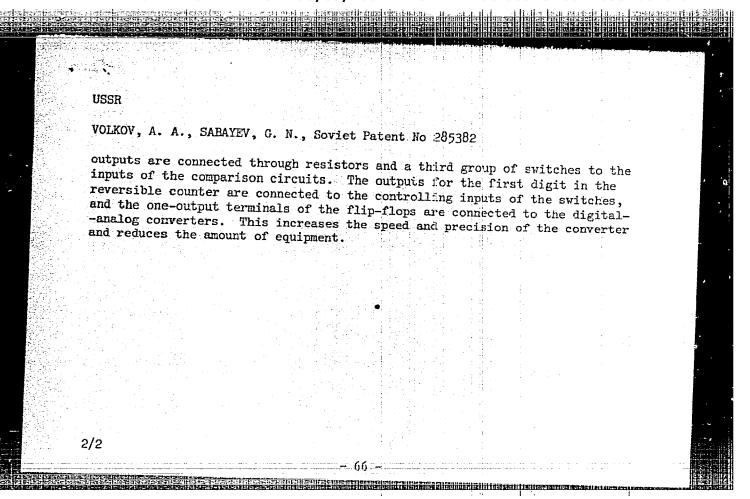
VOLKOV, A. A., SABAYEV, G. N.

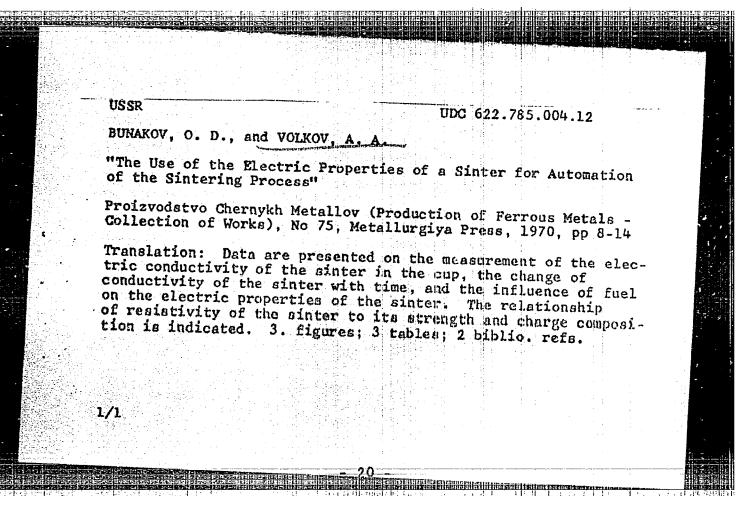
"A Voltage-to-Code Converter"

USER Author's Certificate No 285382, filed 16 May 69, published 12 Jan 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 108475 P)

Translation: Converters are known which change voltage to digital code and to a voltage which varies according to a law of "triangular functions". These converters contain operational DC amplifiers, a digital-analog converter, a reversible counter, and a comparison circuit. The proposed converter, which contains two operational amplifiers, a reversible counter, a comparison circuit, switches, and a biasing source, has the following distinguishing features. The amplifier inputs are connected through the outputs of some switches to the outputs of the corresponding digital-analog converters, to the input resistors of the converter, and to the feedback resistors of the amplifiers, and through other switches and resistors to the biasing source and the outputs of the amplifiers respectively. The amplifier

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USSR

UDC 621.396.622

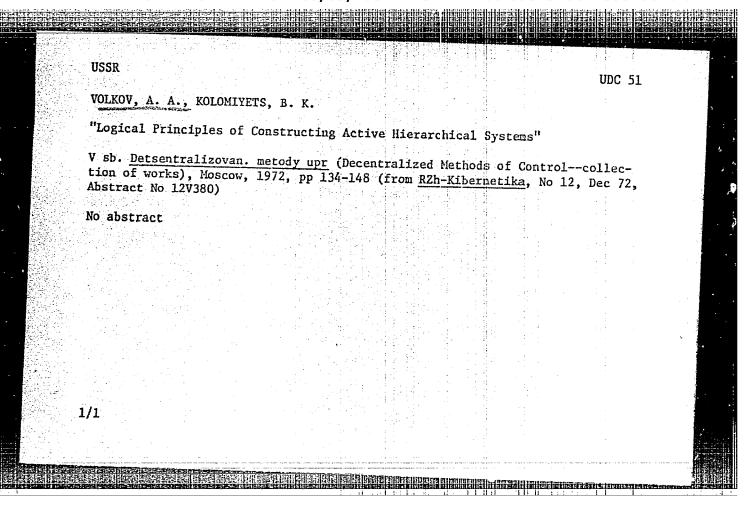
VOLKOV, A. A., REMIZOV, YE. N.

"Selecting the Intermediate Frequencies of the Receiver for Binary Frequency Conversion Circuits with One Heterodyne"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railroad Transportation Engineers), 1970, vyp. 30, pp 132-136 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D21)

Translation: In this article a procedure is proposed for determining the heterodyne frequencies and first intermediate frequency with respect to a given second intermediate frequency, and the signal frequency. Relations are obtained which relate the mentioned frequencies to each other for all possible cases. By the given second intermediate frequency, the harmonic number of the heterodyne and the frequency, it is possible to calculate the first intermediate frequency and then check the exclusion of combination noise in the signal reception channel graphically. The bibliography has two entries.

1/1



USSR

<u>VOLKOV, A. F.</u>, KOGAN, Sh. M. (Institute of Radio Engineering and Electronics, USSR Academy of Sciences)

"Collisionless Relaxation of the Energy Gap in Superconductors"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, November 1973, pp 2038-2046

Abstract: Equations for the Green functions with coinciding times are derived which describe the dynamics of superconductors over a period of time which is small compared with the electron energy relaxation times that and τ_{ee} . The time evolution of small initial perturbations of the order parameter Δ is investigated. It is found that for initial perturbations of a certain type the energy gap relaxes only at the expense of intelestic electron collisions during times of the order of τ_{ph} and τ_{ee} . In frequency $\sim 2\Delta$ and an amplitude which asymptotically decays with time according to a power law.

The article includes 30 equations and one figure. There are nine 1/1

- 73 -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0"

USSR

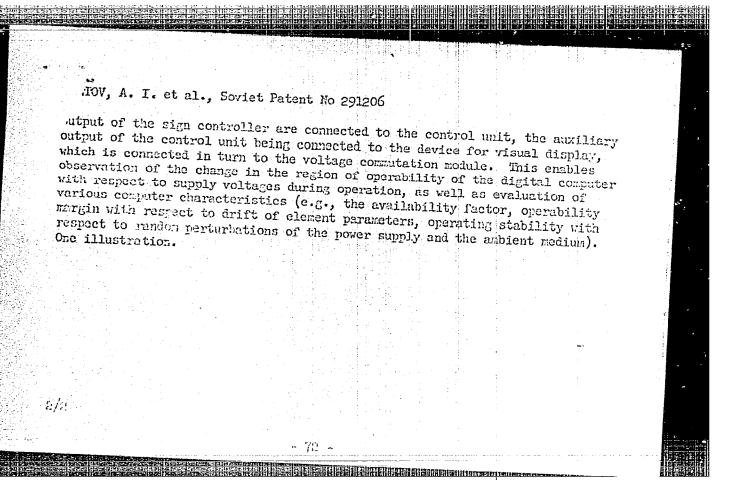
UDC: 681.32.001

SOROKIN, G. K., FFAPEZIUKOV, V. A., CHEGLAKOV, Ye. A., CHEKKAREV, Yu. D.

"A Device for Determining the Region of Operability of a Digital Computer With Respect to Supply Voltages"

USSR Author's Certificate No 291206, filed 7 Aug 68, published 29 Mar 71, (from PZb-Avtenatika, Talenekharika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 102146 F)

Translation: There is a well-known device which determines the region of operability of a divital conjugate with respect to supply voltages. This device contains a control unit, voltage commutation module, an element for controlling the sign of the independent voltage increment, and a device for visual display. Nowever, such devices are incapable of monitoring the changes in digital computer alements which occur as a result of various ambient factors while the region of operation. To speed up determination of the limits of the region of operations are imported the religibility of measurements, the signal ment in the device interfaced by this Author's Certificate is connected to the output of the voltage computation redule, while the controlling input and the



I/2 042 UNCLASSIFIED PROCESSING DATE--04DEC70
LITLE--CURRENT VOLTAGE CHARACTERISTIC OF AN IRRADIATED SUPERCONDUCTING
POINT CONTACT -UAUTHOR-(02)-VOLKOV, A.F., NAD, F.YA.

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 2, P. 92-7 (JAN. 1970)

DATE PUBLISHED-----70

SUBJECT AREAS -- ELECTRONICS AND ELECTRICAL ENGR. PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, IRRADIATION EFFECT, MODEL,

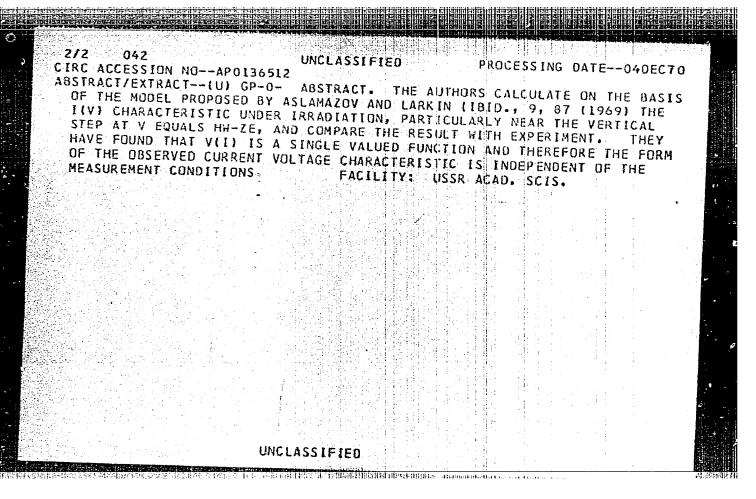
CONTROL MARKING-NO RESTRICTIONS

PROXY REEL/FRAME--3007/1092

STEP NO--US/0000/70/011/002/0092/0097

CIRC ACCESSION NO--APO136512

UNCLASSIFIED



1/2 034 UNCLASSIFIED PROCESSING DATE--020CT70 IITLE--VOLT AMPERE CHARACTERISTICS OF A SUPERCONDUCTING POINT CONTACT AUTHOR-(02)-VOLKOV, A.F., NAD, F.YA.

COUNTRY OF INFO-USSR

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(2), 92-7

DATE PUBLISHED ---- 70

SUBJECT AREAS -- PHYSICS

TOPIC TAGS-SUPERCONDUCTOR, VOLT AMPERE CHARACTERISTIC, IRRADIATION EFFECT

CONTROL MARKING--NO RESIDICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1987/0857

STEP NO+-UR/0386/70/011/002/0092/0097

CIRC ACCESSION NO--APO104293

UNCLASSIFIED

UNCLASSIFIED CIRC ACCESSION NO--APO104293 PROCESSING DATE--020CT70 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PREVIOUSLY REPORTED MODEL AND THEORETICAL APPROACH (ASLAMAZOV, 1969) TO A SUPERCONDUCTING POINT CONTACT WERE APPLIED FOR THE EVALUATION OF THE V-A CHARACTERISTICS OF A POINT CONTACT SUBJECTED TO IRRADN. AND RESULTS COMPARED WITH EXPTL. DATA. THE RESP. MATH. EQUATIONS WERE ANALYZED, AND AFTER SUBSTITUTIONS AND TRANSFORMATION, 2 EXPRESSIONS DEFINING THE V-A RELATION WERE OBTAINED. THE V-A RELATION OF NB-NB POINT CONTACTS UNDER IRRADN. WAS DETD. EXPTL. UNDER GALVANOSTATIC OR POTENTIOSTATIC CONDITIONS. THE PRESSURE AT THE POINT WAS ADJUSTABLE. EXPTS. WERE CARRIED OUT AT A CONTACT RESISTANCE OF SIMILAR TO 1 OHM AND A PRESUMED POINT RADIUS OF 3 TIMES 10 PRIME NEGATIVES CM. THE CONTACTS HERE IRRADIATED AT 4.2 DEGREESK WITH A 10 PRIME NEGATIVES-10 PRIME NEGATIVES-W SOURCE AT WAVELENGTHS OF 2 AND 4 MM. THE CONTACT WAS SWITCHED TO THE LOW OHMIC (10 PRIME NEGATIVE2 OHM) DUTPUT STAGE OF THE GENERATOR WITH A 10 PRIME NEGATIVEL OHM RESISTOR IN SERIES TO CHECK THE CURRENT. THE V-A CURVES WERE TRACED OSCILLOGRAPHICALLY IN THE PRESENCE OR ABSENCE OF IRRADY. AND COMPARED. DURING IRRADN., A KINK APPEARED IN THE CURVES. QUAL., THE SHAPE OF THE CURVES WAS NOT AFFECTED BY IRRADN. BUT A SHIFT WAS DBSD. IN IF IRRADN. WAS CARRIED OUT AT A HIGHER POWER. THE V-A CURVES SIMULATED A PURELY OHMIC DEPENDENCE AND NO KINKS WERE EXPTL. RESULTS AGREE WELL WITH THEORY. THE PROPOSED WODEL IS APPLICABLE TO THE NB-NB POINT CONTACT.

UNCLASSIFIED

USSR

BURTOV, A. I., GRUSHVITSKIY, R. I., METTER, E. Ya., PETROV, V. A., PLATONOV, V. V., SAVUTKIN, V. V., VEDESHENKOV, V. A., VOLKOV, A. F., ZENKIN, V. D., LIKHONINSKIY, V. S., and SOROKIN, G. K.

"Computer Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 27, 1972, p 162, No (11) 351216

Translation: This patent describes a computing device containing resolving modules with decoupling cells at the power supply inputs. It also has a control block connected to the inputs of a switching block and an efficiency indicator. Every output of the switching block is connected to the control input of one of the decoupling cells, thus improving the reliability of the device.

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USSR

WC 632.155

KOROTKOVA, O. A., and VOLKOV, A. I.

"Routes of Pesticide Transformations in the External Medium and the Problem of Residues"

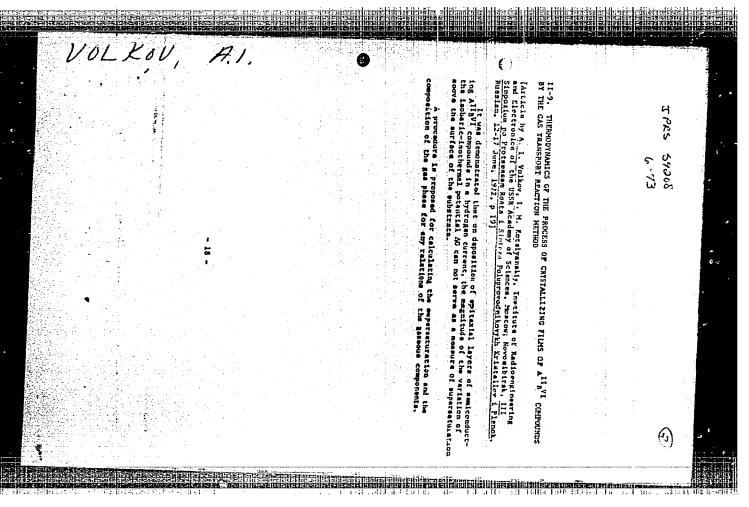
Mcscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 18, No 5, 1973, pp 552-562

Abstract: A review with 104 references devoted to the problem of the ability of external medium to get rid of the pesticide residues using examples consisting of chloroorganic, organophosphoric compounds, and derivatives of carbamic acids. The review also covers the mechanism of their circulation and the dynamics of residues found in the external medium. It has been shown to be possible to avoid accumulation of pesticide residues in the external medium by a planned rotation of individual agents.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520016-0



1/2 010 UNCLASSIFIED PROCESSING DATE-300CT70
TITLE-HYDROGENATION PURIFICATION OF LIQUID PARAFFINS -U-

AUTHOR-(04)-GGNCHARENKO, A.D., MARTYNENKO, A.G., VOLKOV, A.I., VOVK, L.M.

COUNTRY OF INFO-USSR

SOURCE-NEFTEPEREAB. NEFTEKHIM. (MOSCON) 1970. (3), 36-8

DATE PUBLISHED----70

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS-HYDROGENATION, AROMATIC HYDROCARBON, CATALYST, SULFIDE, CHEMICAL PURIFICATION

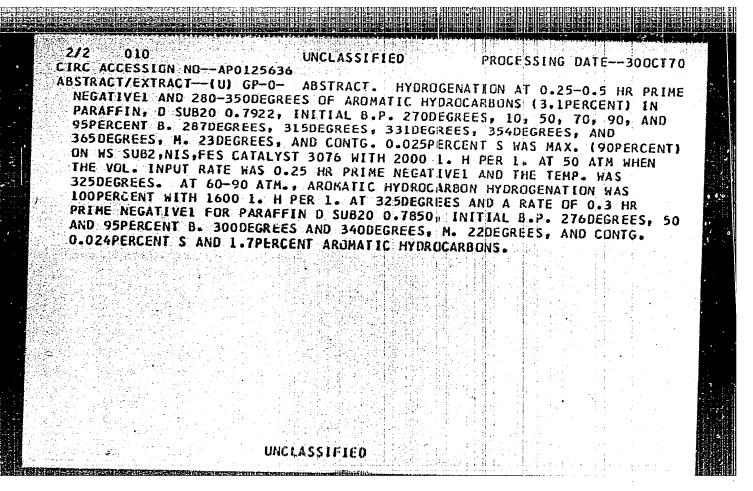
CONTROL MARKING-NO RESTRICTIONS

PROXY REEL/FRAME--2000/2048

STEP NO--UR/0318/T0/000/003/0036/0038

CIRC ACCESSION NO-APO125636

UNCLASSIFIED



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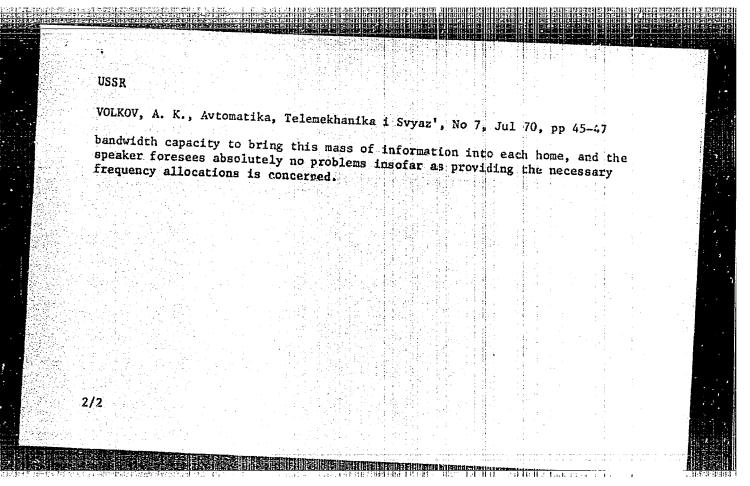
VOLKOV, A. K., engineer

"Communications in the City of the Future"

Moscow, Avtomatika, Telemekhanika i Svyaz', No 7, Jul 70, pp 45-47

Abstract: This article presents a brief review of a report read at a symposium on communications equipment organized by the Swedish Erikason Company in Leningrad in 1969. The author of the report, Dr. Jacobeus, foresees the appearance of telephones in public transport vehicles and small portable telephones to be carried on the person, as well as video phones, including video phones allowing radio and television. He foresees significant expansion of teaching by over transmission. Video phones and facsimile transmitters will also take over transmission of daily newspapers and letters. Once communications capacities are increased, it will no longer be necessary for all the workers of an enterprise to go to work in the same building. Each amployee can work from his own home, connected to the other workers by video phone and facsimile transmission. Three-dimensional color television with stereophonic sound will replace motion pictures and live performances to a great extent, although the orchestra concerts and operas. The modulated laser will provide sufficient

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1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--MEASUREMENT OF THE CONCENTRATION OF DXYGEN DISSOLVED IN TANTALUM
-U-

AUTHOR-(05)-ANUCHKIN, A.M., VOLKOV, A.K., KIDIN, I.N., ROZHNOVA, T.M., SHTREMEL, M.A.

COUNTRY OF INFO--USSR

SOURCE--1ZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 140-2

DATE PUBLISHED----70

SUBJECT AREAS -- MATERIALS

TOPIC TAGS--OXYGEN, TATALUM, SCLUBILITY, SOLID SOLUTION, REFRACTORY METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1986/1008

STEP NO--UR/0148/70/013/001/0140/0142

CIRC ACCESSION NO--ATO102942

UNCLASSIFIED.

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PROCESSING DATE--18SEP70 UNCLASSIFIED 2/2 018 CIRC ACCESSION NO--ATO102942 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. DETN. OF THE CONGN. OF INTERSTITIAL SOLID SOLNS. IN REFRACTORY METALS ON THE BASIS OF THE RESIDUAL ELEC. RESISTANCE IS FASTER THAN THAT BASED ON CELL PARAMETERS. AND DETEN MORE RELIABLE THAN METHODS USING VACUUM FUSION OR VACCUM EXT. TO AVOID ERRORS RESULTING FROM THE GEOMETRY OF THE SPECIMENTS, THE PARAMETER EMPLOYED IS CHI. THE RATIO OF THE RESISTANCES AT 2 TEMPS., CHI IS A NONLINEAR FUNCTION OF THE CONCN. BUT THE FUNCTION Z EQUALS [CHI MINUS 1) PRIME NEGATIVEL IS A LINEAR FUNCTION OF THE CONCN. C IS THE THE RELATION Z EQUALS ALPHA PLUS QC IS EVEN MATTHIESSEN RULE IS OBEYED. MORE WIDELY WALID WITHIN ADEQUATE LIMITS OF ACCURACY. TA STRIPS CONTG. TRACES OF NB, MO, AND FE WERE ADDNL. PURIFIED BY BULSE HEATINGS (4-7 SEC! IN HIGH VACCUUM (BELOW THE M.P.) AND THE RESISTIVITY MEASUREMENTS HERE MADE AT 293DEGREESK AND 77DEGREESK BY A POTENTIOMETRIC METHOD. INITIAL VALUES OF 2.71-3.50 FOR THE RATIO CHI INCREASED TO 4.60-5.33 AFTER PURIFICATION. SAMPLES WERE DEGASSED, AND THEN SATD. WITH O FOR 5-30 MIN AT 1100DEGREESC UNDER PRESSURES OF 2+4 TIMES 10 PRIME NEGATIVES TORR. AND O WAS THEN REMOVED AT A PRESSURE SMALLER THAN 5 TIMES 10 PRIME NEGATIVES TORR. CONCN. WAS DETD. BY 3 METHODS: GRAVIMETRIC. LATTICE PERIOD, AND RESISTANCE AT 20DEGREESC. THE 3 METHODS GIVE COMPATIBLE RESULTS.

UNCLASSIFIED

USSR

VOLKOV, A. M.; SKROTSKIY, G. V.

"Effects Appearing in the Capture Zone of a Ring Laser"

Leningrad, Optika i Spektroskopiya; November, 1970; pp 965-9

ABSTRACT: For a ring laser operating partly in an isotropic medium the authors find relationships determining the dependence of the difference in phase of counterwaves and the rotation angle of the plane of light polarization on its rotational angular velocity. The effect of the stationary gravitational field caused by a rotating mass on the difference in phase of counterwaves and the rotation of the polarization plane is studied. It is shown that a static gravitational field in the first approximation does not change the state of light polarization in a ring laser.

The article includes 8 equations. There are 7 references.

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USSR

VDC 591.18

POPOV, A. K., VOLKOV, A. M., ARUTYUNOV, S. K., and LOBUSOV, Ye. S., Institute of Biomedical Problems, Ministry of Public Health USSR, Moscow Aviation Institute imeni S. Ordzhonikidze, and Moscow Higher Engineering Technical School

"Mechaniums of Spontaneous Rhythmic Activity of the Cerebral Cortex"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 1, Jul/Aug 70, pp 245-247

Abstract: A discussion is presented of possible models in which stimulation of the cortex evokes depolarization of dendrites and excitation of internuncial neurons, which in turn show an inhibiting effect followed by hyperpolarization of dendrites. The process represents the beginning of rhythmic activity. It is assumed that the spontaneous rhythmicity of the isolated cortex is the result of bioelectrical sequential changes in the types of interactions between the dendrites and the internuncial neurons. In other words, the possibility of cortical rhythm exists because of the structural connections of theelements composing it. Thus, the systems and the subsystems interact. On the basis of analysis and the results of the modeling procedures, it is assumed that the spontaneous rhythmic activity of the nerve structures of the cortex is ensured

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ه ا	POPOV, A. K., et 245-247	t al, Dokla	dy Akademii	l Nauk SSS	R, Vol 19:	, No 1, Ju	1/Aug 70, pp	
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1/Z 040 UNCLASSIFIED PROCESSING DATE--20NOV70 TITLE--ROTATING RING RESONATOR IN A GRAVITATIONAL FIELD -U-

AUTHOR-1021-VOLKOV, A.M., KISELEV, V.A.

CCUNTRY OF INFO--USSR

SCURCE-ZHURNAL EKSPERIMENTALINDY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NA 5, PP 1857-1861
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RESENATOR, GENERAL RELATIVITY THEORY, ELECTROHAGNETIC WAVE, VECTOR, TRAVELING WAVE, GRAVITATION FIELD

CENTREL MARKING--NO RESTRICTIONS

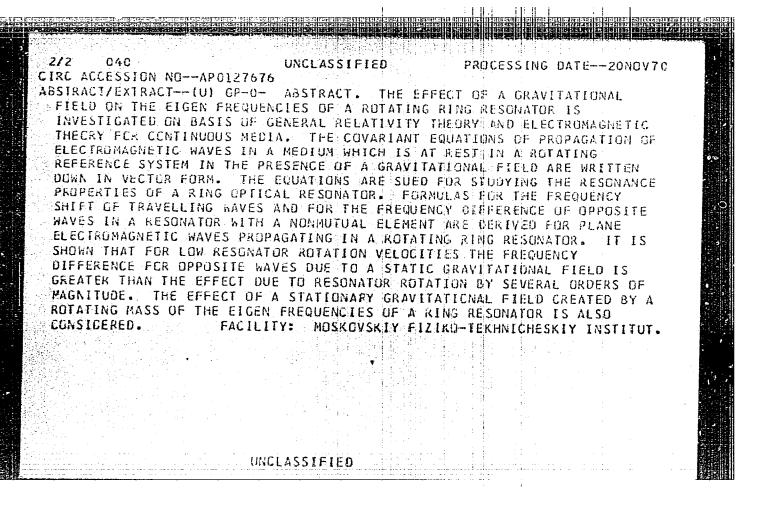
PROXY REEL/FRAME--3002/0026

STEP NO-UR/0056/70/058/005/1857/1861

CIRC ACCESSION NO-APO127676 - In this

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USSR

UDC 681.332.65

VOIKOV. A. H., and SHTRANIKH, I. V., Physics Institute imeni P. N. Lebedev

"Device for Comparing Binary Codes"

USSR Authors' Certificate No 309360, Cl. G 06 f 7/04, filed 26 Sep 69, published 13 Aug 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B186P)

Translation: Many-valued answer parsing logic devices, which present at one of three outputs (>,<,=) a signal of noncorrespondence (> or <) between two code numbers or a signal of their equality (=), are used to perform operations of associative code comparison. The proposed device differs in that in it the multidigit logic circuit in each digit uses two opposing voltage-stabilizing tubes connected to the voltage-stabilizing tubes of the next digit through a parallel-connected resistor and capacitor. The anode of the low-order digit voltage-stabilizing tube is connected through the resistor to the zero line. The anode of the high-order tube is connected to the output line of the device. This simplifies the device and makes it more reliable.

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USSR

UDC 669.15-196.5:669.017.3

VOLKOV, A. N., Kostrona Agricultural Institute "Karavayevo"

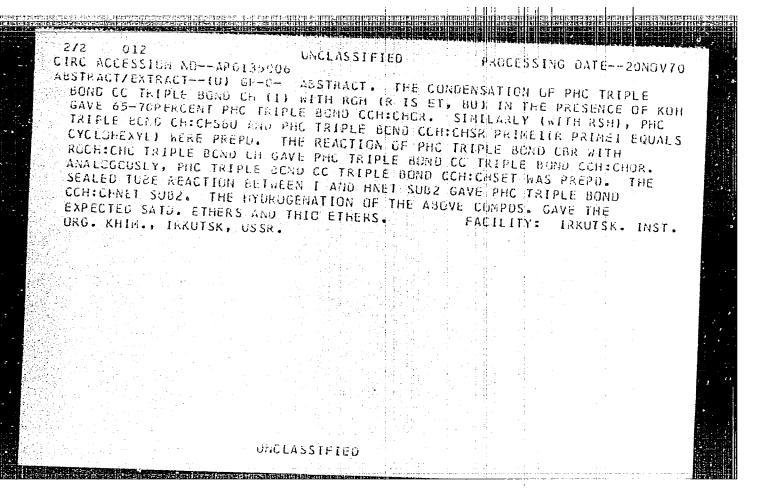
"Transformations in the Surface Layers of Manganese Cast Iron With Abrasive Wear"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 12, 1970, pp 12-

Abstract: It is suggested that the high wear resistance of manganese cast iron is due specifically to decomposition processes occurring in the surface layer during service. X-ray diffraction study has shown that abrasive wear of parts from IChG7Ch, IChG9Ch, IChG11Ch, IChG11M, and IChG11U cast irons effects a transformation (austenite is transformed to martensite), a slight decrease in the lattice parameter, a reduction in the size of crystal blocks, and an increase of microdistortions. Data on the phase compositions of thin surface layers of parts made from cast iron as cast are presented in a table. The least wear is exhibited by parts made from cast iron with 11% Mg and high content of carbon. The highest wear is shown in all tests by parts from IChG11

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1/2 012 UNCLASSIFIED PROCESSING DATE--ZONGV70 TITLE--DIACETYLENE DERIVATIVES. XVII. SYNTHESIS OF UMEGA, PHENYLENYNE AND OMEGA, PHENYLEMEDIANE ETHERS, THIO ETHERS, AND AMENES -U-AUTHOR-(G4)-VULKOV, A.N., SKVORTSOV, YU.M., DANDA, I.I., SHOSTAKOVSKIY, CCUNTRY UF INFU-USSR SCURCE--ZH. CRG. KHIN. 1970, 6(5), 897-902 DATE FUEL ISLED----70 SUBJECT AREAS--CHEMISTRY TOPIC TAGS-ACETYLENE, CHEMICAL SYNTHESIS, THIGL, ETHER, COMUENSATION REACTION, LYGROGENATION, AMINE DERIVATIVE, AROMATIC AMINE CCATRCE MARKING-NO RESTRICTIONS DECUMENT CLASS--UNCLASSIFIED PRUXY REEL/I RAME--3006/1332 STEP NG--UR/0366/70/006/005/0897/0902 CIRC ACCESSION NO--APO135000 ABST LASSIFIED



UNCLASSIFIED PROCESSING DATE-30UCTY(
OF HETEROATOMS AND MULTIPLE BONDS IN ENYME SYSTEMS -UAUTHOR-(04)-SHERGINA, N.I., GOLOVANOVA, N.I., NIKOLSKAYA, A.N., VOLKOV,

CCUNTRY OF INFO-USSR

SOURCE-IZV. AKAD. NAUK SSSR, SER. KHIH. 1970, (3), 546-9

DATE PUBLISHED 70

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS-ACETYLENE HYDROCARBON. IR SPECTRUM, UV SPECTRUM, CONJUGATE BOND SYSTEM, CYCLIC GROUP

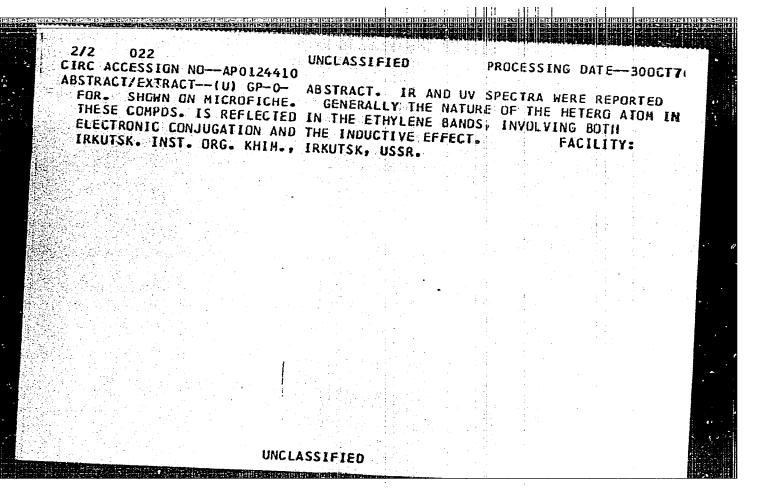
CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME—2000/0740

STEP NO--UR/0062/70/000/003/0546/0549

CIRC ACCESSION NO-APO124410

UNCLASSIFIED



USSR

UDC 621.385.6

VOLKOV, A.P., SHCHEDRIN, I.S.

High-Frequency Field Or Iris Mayeguide And Some Problems Of The Dynamics Of The Longitudinal Motion Of Electrons

V sb. Uskoriteli (Accelerators--Collection Of Works), No 12, Moscow, Atomizdat, 1970, pp 105-110 (from RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A24)

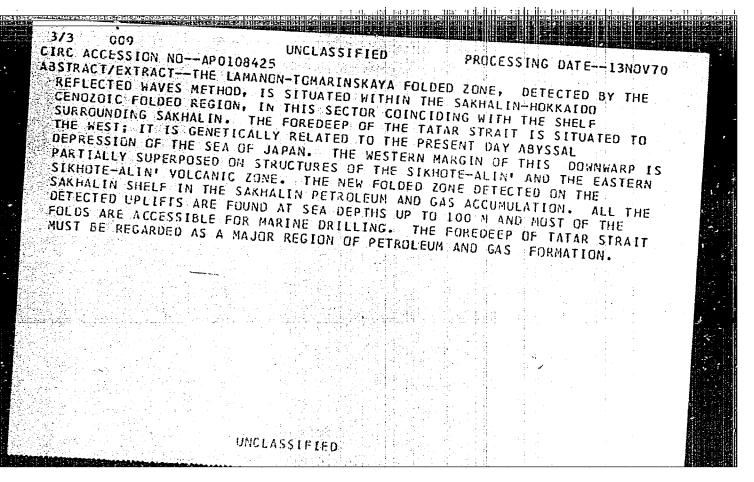
Translation: This paper is concerned with a thorough experimental investigation by means of measurements of the changes (modulation) of amplitude and phase of the longitudinal component of an electrical high-frequency field along the axis of the round iris waveguide of a linear accelerator. The results of the measurements are used for a calculation of the dynamics of the longitudinal motion of electrons in this waveguide. The nonresonant method of small perturbations is used during the messurements. The error of determination of the relative phase velocity from the messurements dats 6 percent (can be reduced). Messurements were conducted at two sections of different waveguides with variable dimensions along the waveguide. The dependence is shown of the AM and FM high-frequency field along the sxis of the waveguide, on the period of the waveguide structure, the mode of the oscillations which are used for acceleration, and the radius of the relative aperture of the iris. The calculations showed that taking account of the medulation and phase of the accelerating high-frequency field has a strong effect on the output spectrum of the accelerated electrons and on the part of the electrons captured in an acceleration regime. 7 ref. D.Ya.

- 290 -

009 UNCLASSIFIED TITLE--SEISMIC DATA ON STRUCTURE OF SEDIMENTS IN TATAR STRAIT, SEISMIC PROCESSING DATE--13NOV70 1 DATA ON STRUCTURE OF THE SEDIMENTARY LAYER IN THE SOUTHERN PART OF THE AUTHOR-(05)-MILASHIN, A.P., SIPLATOV, V.A., YUNOV, A.YU., VOLKOV, A.P., CCUNTRY OF INFO-USSR SOURCE--GELENDSHIK; MOSCOW, GEOTEKTONIKA, NO 1, 1970, PP 117-120 DATE PUBLISHED---70 SUBJECT AREAS-EARTH SCIENCES AND OCEANOGRAPHY TOPIC TAGS-TECTONICS, SEISHIC SURVEY, SEDIMENTARY ROCK LAYER, MARINE GEOLOGY CENTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1990/0052 STEP NO--UR/9066/70/000/001/0117/0120 CIRC ACCESSION NO--APO 108425 UNCLASSIFIED

UNCLASSIFIED CIRC ACCESSION NO--APO108425 PROCESSING DATE--13NDV70 ABSTRACT/EXTRACT-- (U) GP-0- ABSTRACT. TECTONICALLY, THE REGION OF TATAR STRAIT, BEING A CONTINUATION OF THE DEEP WATER SEA OF JAPAN BASIN, IS SITUATED IN THE TRANSITION ZONE FROM THE ASIATIC CONTINENT TO THE PACIFIC OCEAN. DURING THE SUMMER AND AUTUMN OF 1966 THE DIVISION OF MARINE GEOPHYSICAL WORK OF THE ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF GEOPHYSICS FOR THE FIRST TIME CARRIED OUT MARINE SEISMIC STUDIES IN THE TATAR STRAIT BY THE METHOD OF CONTINUOUS PROFILING BY THE REFLECTED WAVES METHOD. MOST OF THE WORK WAS DONE ON THE SAKHALIN ISLAND SHELF IN THE SECTOR BETWEEN CAPE LAMANON AND THE SOUTHEASTERN SHORES OF DELANGL. WITHIN THIS AREA THREE SEISMIC PROFILES INTERSECT TATAR STRAIT FROM SAKHALIN TO THE ASIATIC CONTINENT IN A LATITUDENAL DIRECTION (FIG. 1 IS A MAP OF THE WORK AREA.) THE COLLECTED DATA INDICATE THAT THE STRUCTURE OF THE UPPER PART OF THE SEDIMENTARY COMPLEX IS CHARACTERIZED FOR THE MOST PART BY TWO GROUPS OF DEPOSITS. TH AREA CAN BE DIVIDED INTO EASTERN AND WESTERN PARTS ON THE BASIS OF THE SEISMIC DATA. THE EASTERN PART, CORRESPONDING IN GEOMORPHOLOGICAL RESPECTS TO THE SHELF NEAR SAKHALIN. IS CHARACTERIZED BY WELL EXPRESSED DISLOCATION OF THE THE DURATION OF THE SEISMIC RECORD HERE VARIES FROM 1.4-2.0 SEC. LESS FREQUENTLY 2.5 SEC. IN SYNCLINAL DOWNHARPS TO 0.7-0.9 SEC AND COMPLETE DISAPPEARANCE IN ANTICLINES. THE WESTERN PART CORRESPONDS TO THE ABYSSAL SECTOR AND THE EASTERN SLOPE OF THE STRAIT. THE SEISMIC RECORD IS CHARACTERIZED BY A GREAT DURATION, UP TO 3.0-3.5 SEC. STRUCTURE OF THIS REGION IS DESCRIBED IN DETAIL.

UNCLASSIFIED



USSR

VOLKOV, A. S., GUTKIN, A. A., IL'MENKOV, G. V., NOVAK, I. I., Physicotechnical Institute imeni A. F. Ioffe, USSR Academy of Sciences, Leningrad

"Quantum Yield of the Photoconductive Effect in Germanium"

Leningrad, Fizika Tverdogo Tela, Vol 15, No 9, Sep 73, pp 2796-2797

Abstract: To explain the contradictions in previous experimental data on the quantum yield of the photoconductive effect in germanium, the authors investigate the spectrum for this semiconductor at room temperature in the photon energy region of 1-1.9 ev. The results show that within limits of experimental error of ±3% the quantum yield of the photoconductive effect of germanium in this energy region remains constant. The authors thank A. N. Imenkov, D. N. Nasledov, A. A. Rognchev, and B. V. Tsarenkov for taking part in discussion of the experimental results.

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USSR

UDC: 621.374.5

VOLKOV, A. S., CHINENKOVA, S. V.

"On the Selection of Material for Acoustic Lines in Magnetostriction Delay Lines"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 51, pp 165-172 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5G292)

Translation: The authors study the coefficient of dynamic magnetostriction, mechanical figure of merit, Curie point, reversible permeability and temperature coefficient of delay of magnetostriction delay lines made from 42NKhTYu, 44NKhTYu and N45KhT precipitation-hardened Elinvar alloys as a function of heat-treat temperature. Taking an estimate of the effect which the properdelay line as a basis, the authors present recommendations on the selection of acoustic line material for different delay lines. Bibliography of six titles. Resume.

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